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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,957	10/20/2000	John Edward Archibald JR.	SJO9-2000-0056US1	6420

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[REDACTED] EXAMINER

THAI, TUAN V

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2186

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/692,957	ARCHIBALD ET AL.
	Examiner Tuan V. Thai	Art Unit 2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 08 January 2003.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-15 and 20-22 is/are rejected.
- 7) Claim(s) 16-19 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

Art Unit: 2186

PART III

RESPONSE TO AMENDMENTS

1. This action is responsive to communication filed on January 08, 2003. This amendment has been entered and carefully considered. Claims 1-22 are again presented for examination.

2. The rejection of claims 1-15 and 20-22, objection to claims 16-19 in the Office Action mailed September 30, 2002 (paper # 3) is respectfully maintained and reiterated below for Applicant's convenience.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-15 and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Miller et al. (USPN: 6,397,351); hereinafter Miller;

Art Unit: 2186

As per claims 1, 6 and 11; Miller discloses the data storage system, comprising a host computer system (e.g. see figure 1); a first set of storage volumes and a second set of storage volumes for backing-up data from the first set of storage volumes is taught by Miller as being illustrated at column 5, line 31 bridging column 6, lines 9, especially through the concept of internal/ external backup wherein Miller clearly discloses the external backups may resides on the storage 112, at a remote site, or on another location that is physically separate from the storage 112 (e.g. see figure 1); a controller for controlling the transfer of data from the host system to the first and second set of storage volumes, wherein at least the first set of storage volumes further comprises data recording media including a plurality of extended format sectors, the extended format sectors comprising a user data sector field for storing user data and a backup indicator field for indicating the status of the user data sector field is taught as controller 108 which uses metadata 116 including the backup list 120, pointer set list 122, accumulator indicator 123, and update map 121 wherein the update map 121 may comprise a bit map, where each bit represents one subpart of the backup dataset, and the status of that bit indicates whether the change accumulator 130 contains any updates affecting that subpart. The change accumulator indicator 123 tells whether the backup restoration process is currently applying any change

Art Unit: 2186

accumulator data to restored backup data; for example, the indicator 123 may comprise a flag such as a storage bit (e.g. see column 7, lines 49 et seq.); noting that the further limitation of a magnetic storage medium having servo information ...sectors; a motor and a head assembly having at least one read head for reading and writing data on the a plurality of extended format sectors is embedded in the system of Miller and being taught to the extent that it is being claimed since different machine-readable data storage media can be utilized such as magnetic disk, RAID arrays, etc.. (e.g. see column 5, lines 14 et seq.);

As per claims 2, 7 and 12, wherein the backup indicator field indicates whether the user data in the user data sector field has been written to backup storage subsequent to a previous backup operation is taught by Miller as the update map 121 may comprise a bit map wherein each bit represents one subpart of the backup dataset, and the status of that bit indicates whether the change accumulator 130 contains any updates affecting that subpart (e.g. see column 7, lines 49 et seq.);

As per claim 3, 8 and 13 wherein the backup indicator comprises a single bit is taught by Miller as the indicator 123 may comprise a flag such as a storage bit (e.g. see column 7, lines 56-57);

As per claim 4, 9 and 14; Miller discloses the log record is sorted according to the datasets that each log record corresponds

Art Unit: 2186

to then by attributes such as data, time, .. within each dataset (e.g. see column 8, lines 34 et seq.);

As per claims 5, 10 and 15; Miller discloses wherein the backup indicator indicates whether the user data sector field has been written to (e.g. see column 7, lines 49 et seq.);

As per claims 20-22, they encompass the same scope of invention as to that of claims 1-5, 6-10 and 11-15 except they are drafted as method format rather than apparatus format, the claims are therefore rejected for the same reasons as being set forth above.

Allowable subject matter

5. Claim 16 is objected to as being dependent upon a rejected based claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 17-19 are also allowable since they are depend upon the indicated allowable claim 16.

6. As per remark, Applicant's counsel contended that Miller does not mention extended formatting and does not suggesting the providing of a physical disk format larger than the host data format; moreover, Miller fails to suggest providing recording media with extended format sectors that includes a user data sector field for storing user data and a backup indicator field

Art Unit: 2186

for indicating the status of the user data sector field as recited in Applicant's independent claims 1, 6, 11 and 20 (page 3 of the amendment).

In response to Applicant's counsel argument, Examiner would like to emphasize that the extended formatting is taught by Miller to the extent that it is being claimed; for example, Miller discloses the storage controller 108 translates between the logical view of the host 102 and a physical view of data that pertains to actual addresses, **extents**, tracks, sectors, cylinders, and the like (e.g. see column 3, lines 43 et seq.); in addition, Miller further mentions the extended remote copy system ("XRC") (column 1, line 35 et seq.). The physical disk format as being equivalent to the storage 112 (figure 1) wherein it is provided by the storage media of the RAMAC RVA storage subsystem and includes multiple magnetic disk drive storage 114 (column 3, lines 59 et seq.) which are known to have larger physical disk format than the host 102 data format. The further concept of the extended format sectors comprising a user data sector field for storing user data and a backup indicator field for indicating the status of the user data sector field is taught as controller 108 which uses metadata 116 including the backup list 120, pointer set list 122, accumulator indicator 123, and update map 121 wherein the update map 121 may comprise a bit map, where each bit represents one subpart of the backup dataset, and the status of

Art Unit: 2186

that bit indicates whether the change accumulator 130 contains any updates affecting that subpart. The change accumulator indicator 123 tells whether the backup restoration process is currently applying any change accumulator data to restored backup data; for example, the indicator 123 may comprise a flag such as a storage bit (e.g. see column 7, lines 49 et seq.)

7. Applicant's arguments filed January 08, 2003 have been fully considered but they are not deemed to be persuasive.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Art Unit: 2186

9. Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is 703-305-3842.

The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays or e-mailed at **tuan.thai@uspto.gov**;

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Matthew M. Kim can be reached on (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900. The Official Fax Numbers for TC-2100 are:

After-final (703) 746-7238

Official (703) 746-7239

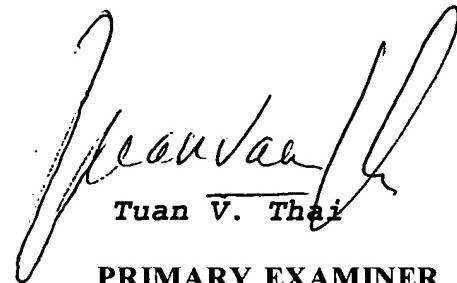
Non-Official/Draft (703) 746-7240

Serial Number: 09/692,957

-9-

Art Unit: 2186

TVT/March 21, 2003



A handwritten signature in black ink, appearing to read "Tuan V. Thai". Below the signature, the name "Tuan V. Thai" is printed in a smaller, more formal font.

PRIMARY EXAMINER

Group 2100